ILLINOIS ENVIRONMENTAL PROTECTION AGENCY MEMORANDUM

DATE: October 30, 1985

TO: Division FIle

FROM: Jeannine Balsamo

SUBJECT: 0316550004 - Cook County - Chicago/PVS
ILD 001833714

An inspection was conducted on October 29, 1985 at the above referenced site to determine their degree of compliance with Section 725 Subpart F, Groundwater Monitoring requirements. Dale Smyser, plant manager at PVS, was interviewed. PVS Chemicals Inc., a subsidiary of Pressure Vessel Service Inc., manufactures sulfuric acid and aluminum chloride. The production of ammonium thio sulfate ceased on October 21, 1985. Waste, hazardous due to corrosivity, is generated from spills occurring during the production of the various chemicals. Three pumps located throughout the plant transfer the waste through an overhead pipe into a pre-treatment tank where the pH is raised. The fluid is then transferred to a two compartment surface impoundment allowing iron oxide to settle. Prior to the installation of the pre-treatment tank in 1981, the impoundment had been used to store hazardous waste prior to treatment. Since the impoundment was never closed, it is still regulated as a hazardous waste storage surface impoundment. The facility is attempting to close the impoundment but has not met any of the Subpart F groundwater monitoring requirements.

PVS bought the Chicago facility from Allied Chemical Corporation on October 13, 1981. Allied had utilized the two compartment storage impoundment to receive an aqueous waste stream having a pH of less than 2. The waste was stored in the southern compartment prior to treatment. Treatment occurred by pumping the waste into two waste water treatment tanks located in a building north of the impoundment, adding soda ash, then returning the fluid to the northern compartment of the impoundment. Iron oxide and other solids would precipitate and the effluent was discharged to MSD. By November 1981, PVS had installed a pre-treatment tank so that the corrosive waste could be treated with magnesium hydroxide, raising the pH to 4, prior to discharge into the impoundment.

Each compartment of the impoundment is approximately 100' x 50' x 6'. Their Part A lists a 500,000 gallon capacity. The impoundment, installed in 1977, was built on six to nine inches of sand over compacted soil coated with oil or coal tar pitch. It is lined with a 5/8 inch thickness of asphalt and burlap layers.

The southern compartment also has an underdrain system consisting of a two-inch perforated pipe installed into

the sand which leads to a bucket located next to the impoundment allowing any releases to be sampled. Only small amounts of liquid have been obtained through this system. PVS has recently had this material analyzed for pH for their closure plan and has received results of about pH 6. Due to the small quantity of sludge that is generated, the impoundment has not been emptied since May 20, 1982.

The site is located adjacent to the Calumet River and is bisected by the Wolf Creek. PVS owns the fenced in area containing the facility itself (see diagram). Arrow Terminals has recently purchased a strip of land that is 500 feet east of the property line. Allied Chemical Corporation still has ownership of the remaining property. Three old landfills are located on the property as well as past storage lagoons which have been filled. A drum storage area is now utilized to store product and waste oil.

A Compliance Conference was held on January 16, 1985 to discuss the groundwater violations. PVS submitted a closure plan on February 15, 1985 which was rejected in March. A CIL was sent on April 10, 1985 concerning Section 725 Subparts G and H and a Compliance Conference was held on August 5, 1985 to discuss these concerns. PVS submitted a second closure plan on September 9, 1985 which has been found to be inadequate. The inadequacies included failure to discuss a detailed sampling plan for the lagoon sludge and failure to mention any sampling of the soil in the area of the lagoon. Mr. Smyser feels soil sampling is unnecessary since any contamination would have disappeared by this time.

On August 8, 1985, Cliff Gould conducted an I.S.S. inspection and an October 2, 1985 CIL was sent addressing those violations and also including all groundwater violations. Due to an inadequate reply, a Pre-Enforcement Conference Letter will be scheduled that addresses all Section 725 violations, including those that are a result of this inspection.

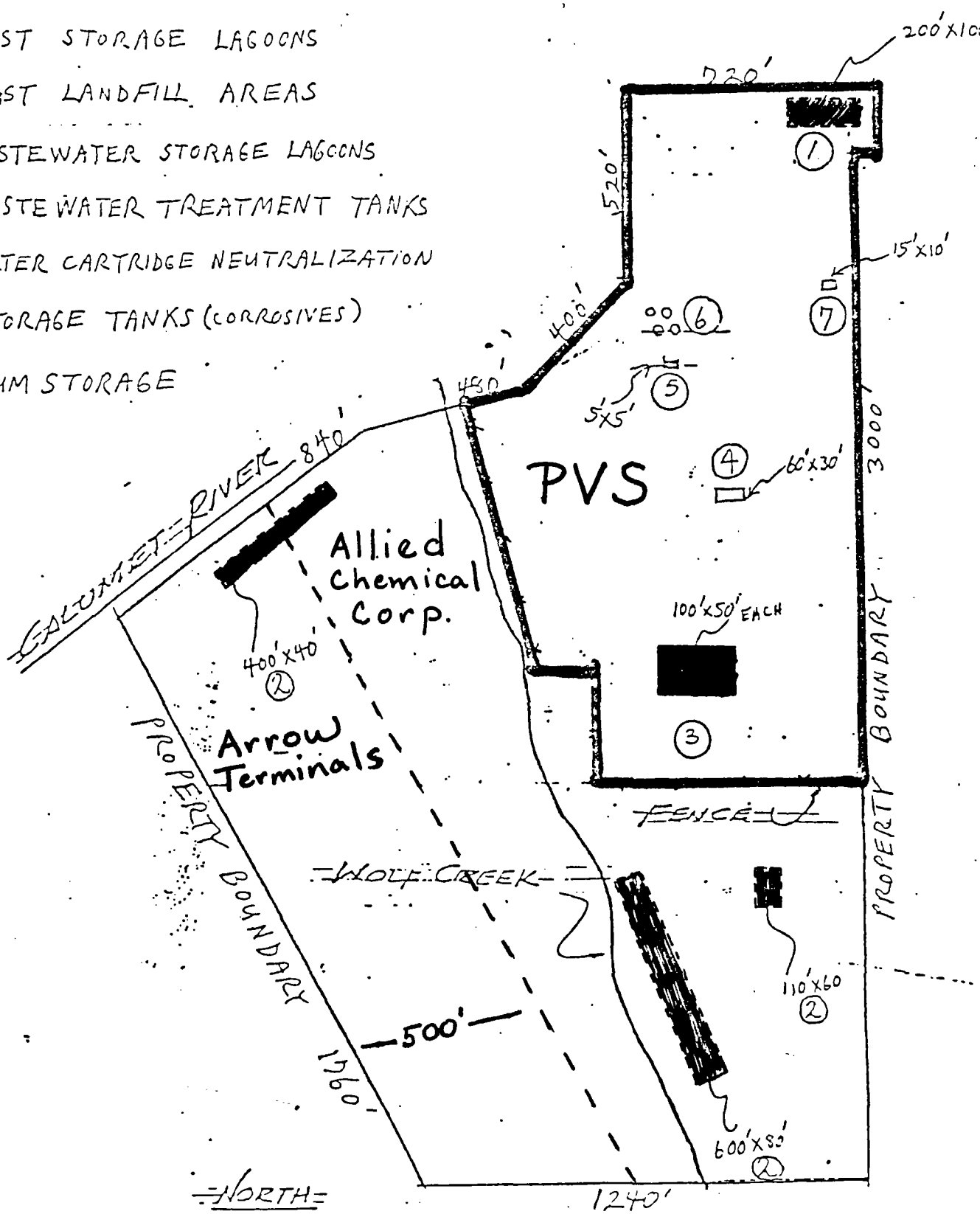
PVS is in violation of Sections 725.190, 725.191, 725.192, 725.193 and 725.194.

JB/kes

cc: Northern Region
Mark Haney
Bob Carson
Jeannine Balsamo

LEGEND

- PAST STORAGE LAGOONS
- PAST LANDFILL AREAS
- WASTEWATER STORAGE LAGOONS
- (4) WASTE WATER TREATMENT TANKS
- (5) FILTER CARTRIDGE NEUTRALIZATION
- (6) STORAGE TANKS (CORROSIVES)
- (7) DRUM STORAGE



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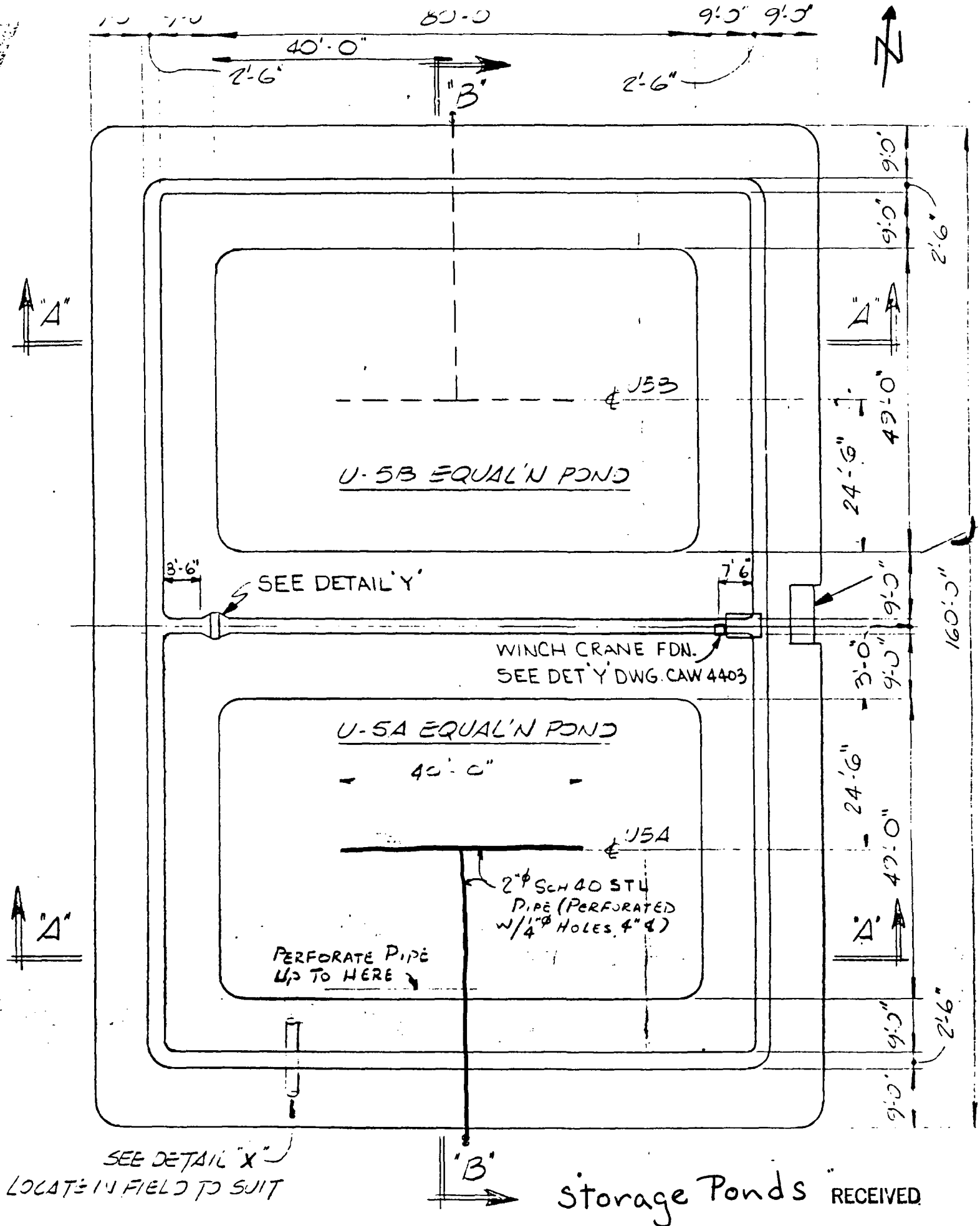

Storage Ponds

PLAN

APPENDIX A-1

FACILITY INSPECTION FORM FOR COMPLIANCE WITH INTERIM STATUS STANDARDS COVERING GROUNDWATER MONITORING

General Information

USEPA Number: ILD001833714 IEPA Number: 0316550004

Major Facility: (YES)/NO Notified As: G/TSD Regulated As: G/TSD

Facility Name: PVS Chemical Company

Street: 12260 S. Cacendolet Ave

City: Chicago State: IL Zip Code: 60633

Phone: 312/933-8800 County: Cook

Facility Contact Official: Dale S. Smyser Branch/Organization:

Title: Plant Manager

Region: 1 Date of Inspection: 10/29/85 Time: (From) 1:30p (To) 3:30p

Type of Inspection: (GWM) RR F/U ___/___/___ (Date of Initial Inspection)

Preparer Information:

Name:

Jeannine Balsamo

Agency/Title:

IEPA/EPS I

Telephone:

312/345-9780

Section	Class I	Class II
725.190	X	
725.191	X	
725.192	X	
725.193	X	
725.194	X	
TOTAL Class I's & II's	5	

Type of facility: (check appropriately)

	YES	NO	UNKNOWN	WAVIED
a) surface impoundment	X			
b) landfill		X		
c) land treatment facility		X		
d) disposal waste pile*		X		

Groundwater Monitoring Program

1. Was the groundwater monitoring program reviewed prior to site visit? if "NO",		X		
a) Was the groundwater program reviewed at the facility prior to site inspection?		X		
2. Has a groundwater monitoring program (capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility) been implemented? 725.190(a)		X		

*Listed separate from landfill for convenience of identification.

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	Yes	No	Unknown	Wavied
3. Has at least one monitoring well been installed in the uppermost aquifer hydraulically upgradient from the limit of the waste management area? 725.191(a)(1)	___	X		___
a) Are ground-water samples from the uppermost aquifer, representative of background ground-water quality and not affected by the facility (as ensured by proper well number, locations and depths?)	___	___		
4. Have at least three monitoring wells been installed hydraulically downgradient at the limit of the waste handling or management area? 725.191(a)(2)	___	___		
a) Do well numbers, locations and depths ensure prompt detection of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer?	___	___		___
5. Have the locations of the waste management areas been verified to conform with information in the ground-water program?	___	___	___	
a) If the facility contains multiple waste management components, is each component adequately monitored?	___	___		
6. Do the numbers, locations, and depths of the ground-water monitoring wells agree with the data in the ground-water monitoring system program? If "No," explain discrepancies.	___	___	___	
7. Well completion details. 725.191(c)				
a) Are wells properly cased?	___	___	___	
b) Are wells screened (perforated) and packed where necessary to enable sampling at appropriate depths?	___	___	___	
c) Are annular spaces properly sealed to prevent contamination of ground-water?	___	___	___	

	Yes	No	Unknown	Wavied
8. Has a ground-water sampling and analysis plan been developed? 725.192(a)		X		
a) Has it been followed?				
b) Is the plan kept at the facility:				
c) Does the plan include procedures and techniques for:				
1) Sample collection?				
2) Sample preservation?				
3) Sample shipment?				
4) Analytical procedures?				
5) Chain of custody control?				
9. Are the required parameters in ground-water samples being tested quarterly for the first year? 725.192(b) and 725.192(c)(1)				
a) Are the ground-water samples analyzed for the following:				
1) Parameters characterizing the suitability of the ground-water as a drinking water supply? 725.192(b)(1)				
2) Parameters establishing ground-water quality? 725.192(b)(2)				
3) Parameters used as indicators of ground-water contamination? 725.192(b)(3)				
(i) For each indicator parameter are at least four replicate measurements obtained at each upgradient well for each sample obtained during the first year of monitoring? 725.192(c)(2)				
(ii) Are provisions made to calculate the initial background arithmetic mean and variance of the respective parameter concentrations or values obtained from the upgradient well(s) during the first year? 725.192(c)(2)				

	Yes	No	Unknown	Wavied
b) For facilities which have completed first year ground-water sampling and analysis requirements:				
1) Have samples been obtained and analyzed for the ground-water quality parameters at least annually? 725.192(d)(1)	___	X		
2) Have samples been obtained and analyzed for the indicators of ground-water contamination at least semi-annually? 725.192(d)(2)	___	___		
c) Were ground-water surface elevations determined at each monitoring well each time a sample was taken? 725.192(e)	___	___		
d) If it was determined that modification of the number, location or depth of monitoring wells was necessary, was the system brought into compliance with 725.191(a)? 725.193	___	___		
10. Has an outline of a ground-water quality assessment program been prepared? 725.193(a)	___	___		
a) Does it describe a program capable of determining:				
1) Whether hazardous waste or hazardous waste constituents have entered the ground-water?	___	___		
2) The rate and extent of migration of hazardous waste or hazardous waste constituents in ground-water?	___	___		
3) Concentrations of hazardous waste or hazardous waste constituents in ground-water?	___	___		
b) Were records kept of the analyses and evaluations, specified in the ground-water quality assessment (throughout the active life of the facility)? 725.194(b)(1)	___	___		
1) If a disposal facility, were(are) records kept through the post-closure period as well?	___	___		

	Yes	No	Unknown	Wavied
11. Have records been kept of analyses for parameters in 725.192(c) and (d)? 725.194(a)(1)		X		
12. Have records been kept of ground-water surface elevations taken at the time of sampling for each well? 725.194(a)(1)				
13. Have records been kept of required elevations in 725.192(e)? 725.194(a)(1)				

*EPA will be proposing (Spring 1982) to replace this reporting requirement with an exception reporting system where reports will be submitted only where maximum contaminant levels or significant changes in the contamination indicators or other parameters are observed. EPA has delayed compliance stage for 14 a) above until August 1, 1982 (Federal Register, February 23, 1982, p. 7841-7842) to be coupled with exception reporting in the interim.

AST STORAGE LAGOONS

PAST LANDFILL AREAS

(3) WASTEWATER STORAGE LAGOONS

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(5) FILTER CARTRIDGE NEUTRALIZATION

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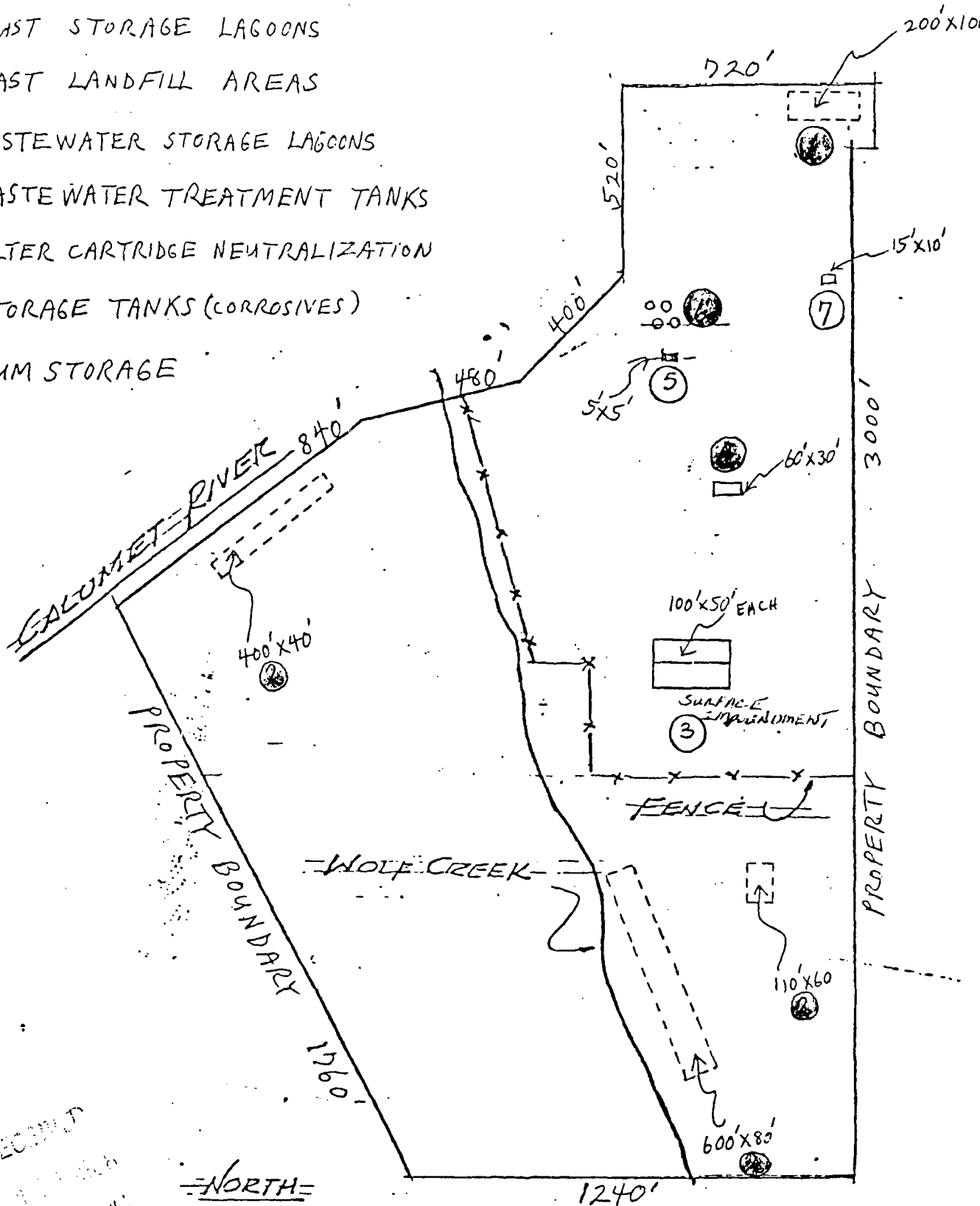

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